# In the Specification:

On page 5, paragraph 20 has been deleted in its entirety.

On page 5, paragraph 21 has been deleted in its entirety.

On page 5, paragraph 22 has been amended as follows:

Fig. 9  $\underline{7}$  is an elevation taken along line 9-9  $\underline{7-7}$  of Fig. 6 showing optional side marker illumination:

On page 5, paragraph 23 has been amended as follows:

Fig.  $\frac{10}{8}$  is a rear view of a center, high mounted, stop lamp (CHMSL) configured in accordance with principles of the present invention;

On page 5, paragraph 24 has been deleted in its entirety.

On page 5, paragraph 25 has been amended as follows:

Fig. 12 9 is an elevation taken along line 12-12 9-9 of Fig. 10 8, and

On page 5, paragraph 26 has been amended as follows:

Fig. 13 10 is a schematic diagram showing a power supply arrangement used with each of the rear combination lamps of Figs. 2-5, shown singularly in Figs. Fig. 6 6-9.

On page 7, paragraph 31 has been amended as follows:

Referring now to Figs. 6-8 Fig. 6 one of the rear combination lamps 23a is shown, the other rear combination lamp 23b being a reverse image thereof. As is seen in Fig. 6, both the tail signal light 31a and the stop light signal source 32a are provided by a first array 40 of first LEDs 42 that emit red light. The turn signal light 35a is provided by a second array 44 of second LEDs 46 that preferably emit either flashing amber or flashing red light. In the embodiment of Figs. 6-8 6 the first array 40 of first LEDs 42 and the second array 44 of second LEDs 46 are linear and are arranged in vertical columns to provide illumination proximate the vertical edges of the rear area 21 of the vehicle 20 (see also Figs. 2-5). Beneath the two columns

Appl. No. 10/748,660 Reply to Office Action of, May 6, 2004

formed by the first and second arrays 40 and 44 of the LEDs 42 and 46, respectively, is a passive reflector 47 having a rear panel 48 and a side panel 49. The rear panel 48 is primarily visible from the rear area 21 of the vehicle 20 and the side panel 49 primarily visible from the side of the vehicle.

### On page 8, paragraph 32 has been amended as follows:

The LEDs 42 and 46 are surrounded by a bezel 50 which is dark in color to absorb rather than reflect exterior light sources such as sunlight (or following headlights), whereby the arrays of LEDs 40 and 44 are not obscured by reflected light rays from exterior light sources (see Fig. 1) when viewed by a following driver. Preferably, the bezel 50 is black or substantially black so that substantially all of the light rays 25 and 26 from an external source such as the sun 27 (see Fig. 1) are absorbed, however the bezel 50 has a high gloss surface at least in areas such as areas 52 and 54, which are directly adjacent to and extend obliquely with respect to the LEDs 42 and 46. Since at least the these surfaces 52 and 54 of the bezel 50 are glossy, these surfaces reflect portions 56 and 58 of light emitted by the LEDs 42 and 46, respectively. Portions of emitted light 60 and 62 which do not reflect from the glossy surfaces 52 50 and 54 of the bezel 50 are directed rearwardly in a direct line of sight to the following observer. By stepping the second array 44 of LEDs 46 with respect to the first array 40 of LEDs 42, there is less interference between the stop signal light 32a and turn signal 35a emitted from the LEDs 42 and 46, respectively. As is seen in Fig. 8, the The portions 52 of the bezel 50 adjacent to the LEDs 42 are above and below the LEDs 42 so as to reflect substantially all of the laterally emitted light from the LEDs 42 back toward the following vehicle. When comparing Fig. 8 to Fig. 7, it is seen that in Fig. 7 at At least some of the light from the LEDs 42 in Fig. 7 emits laterally, providing at least some side illumination for the rear combination lamps 23a and 23b.

# On page 9, paragraph 35 has been amended as follows:

The first array 40 of LEDs 42 is mounted on a stamped metal circuit 80 that is press fitted or otherwise attached to the back surface of the bezel 50. The second array 44 of LEDs 46 is attached to a stamped metal circuit 84 that is also press fitted or otherwise attached to the back surface of the bezel. Alternatively, the stamped metal circuits 80 and 84 are attached to surface 81 of the housing.

# On page 9, paragraph 36 has been amended as follows:

Disposed over the arrays 40 and 46 of LEDs 42 and 46 is a lens 90. The lens 90 is preferably made of crystal clear (non-colored), medium impact, acrylic plastic having a black acrylic frame 92 around the entire periphery of the lens. The frame 92 is preferably molded integrally to the lens and the combination of the lens and the frame are adhered to the housing 70 using a two-part polyurethane adhesive 91 to combine the housing, lens and lens frame in an integral, closed structure protecting the LEDs 42 and 46. The housing 70 is attached removably to the rear of the vehicle 20 (Figs. 1-5) in a conventional manner by using, for example, screws or bolts to mount the rear combination lamp 23a on the vehicle, the rear combination lamp 23b being generally configured and mounted on the vehicle in the same manner.

#### On page 10, paragraph 37 has been amended as follows:

As is seen in Fig. 9 7, for certain markets, red side marker LEDs 93 are required. In these situations, the bezel 50' is provided with an additional opening 94 and the LEDs 93 are supported in the housing 70 by a printed circuit board 95. Preferably, a pair of LEDs 93 provide a third array 96 of LEDs in each of the rear combination lamps 23a and 23b to provide side marker illumination for the two rear combination lamps. In a preferred embodiment, the LED or LEDs 93 are mounted to project light through a light transmitting portion of the side marker reflective panels 49 of each rear combination lamp 23a and 23b.

#### On page 10, paragraph 38 has been amended as follows:

Referring now to Figs. <u>8</u> 10, 11 and 12 <u>9</u> where the center, high-mounted stop lamp (CHMSL) 24 is shown in isolation, it is seen that the stop signal light 34 of the CHMSL is comprised

of an additional array 100 of individual red LEDs 102. In the illustrated embodiment there are 34 LEDs. While a linear array 100 of LEDs 102 is a preferred arrangement of a CHMSL for a vehicle such as an SUV, this third array 100 of LEDs 102 may be arranged in other configurations, such as lines of LEDs arranged one above the other, or in any other arrangement conveying a signal to a following driver to "stop."

#### On page 10, paragraph 39 has been amended as follows:

As is seen in Fig. 9 Figs. 11 and 12, the additional array 100 of LEDs 102 providing the CHMSL signal light 34 cooperate with a bezel 104 that has openings 106 therein through which red light from the LEDs passes. The bezel 104 is of a dark material which absorbs exterior light such as ambient sunlight or light from a following headlight, but has reflective surfaces 108 at least adjacent the LEDs 102. In a preferred embodiment, the bezel 104 is made of a dark plastic, such as black polycarbonate, having a glossy surface which provides the reflective surfaces 108 at least adjacent each LED 102. The LEDs 102 are mounted on a circuit board 110 positioned behind the bezel 104, the circuit board being affixed to a housing 112. The housing 112 is preferably made of a plastic material and supports a clear plastic lens 114 preferably made of an acrylic material. The clear plastic lens 114 preferably has a black acrylic frame such as the frame 92 of Fig. 7. The clear plastic lens 114, which is preferably a crystal clear acrylic, is bonded to the housing 112 with a two-part polyurethane adhesive 116 to provide a permanently closed integral structure that protects the additional array 100 of red LEDs 102 for the life of the CHMSL 24.

### On page 11, paragraph 40 has been amended as follows:

Referring now to Fig. 13 10 there is shown a power supply, which is referred to in the art as an LED drive module or an LDM. An LDM 130a is mounted in the housing 70 of the left rear combination lamp 23a and an LDM 130b is mounted in the housing 70 of the right rear combination lamp 23b. The LDM modules 130a and 130b use constant vehicle current at 9-16 volts DC. When the outboard lights 31a and 31b (see Fig. 3) are functioning as taillights, the associated LDMs 130a and 130b are operating in a first mode at a 5% duty cycle to provide current to the red LEDs 42 of

A 40 4 5

the first array 40 in each of the rear combination lamps 23a and 23b. Consequently, the red LEDs 42 emit light at a reduced intensity when in the first mode.

# On page 12, paragraph 43 has been amended as follows:

The rear turn signal lights 35a and 35b always operates operate at a full duty cycle and are therefore always bright when flashing to indicate a left turn 35a or a right turn 35b, or when both are flashing in conjunction to indicate an emergency situation. The second LEDs 46 contrast with the first LEDs 42 in the first arrays 40 of the two rear combination lamps 23a and 23b. This contrast indicates to following vehicles that the vehicle 20 is turning or that the vehicle is aware of a hazardous condition. The turn signal lights 35a and 35b flash together when a caution switch in the vehicle 20 is activated to indicate the presence of a hazard to following drivers. The turn signal lights 35a and 35b, positioned inboard of the tail and stop signal lights 31a and 31b, are either red or amber and contrast markedly with the red tail lights 31a and 31b and stop lights 32a and 32b because the turn signal lights 35a and 35b continuously flash.

# On page 13, paragraph 44 has been amended as follows:

Fig. 10 is the actual circuit diagram of the illustrated embodiment. Although the LEDs 42 and 46 are each physically in single columns in the other drawing figures, other physical arrangements of the LEDs 42 and 46 may be used, such as but not limited to circular or polygonal arrangements.

#### On page 13, paragraph 45 has been amended as follows:

As seen in Fig. 43 10, if a side marker function is utilized with the rear combination lamps 23a and 23b, then the LED 93 or the array 96 of LEDs 93 are preferably energized directly by the vehicles DC electrical system to always preferably illuminate at a full duty cycle. The CHMSL 24 is preferably also energized by 9-16 volt constant DC current at a full duty cycle taken directly from the electrical system of the vehicle 20.